



United States  
Department  
of Agriculture

Contractor  
and Cooperator  
Report No. 15

January 2006



Electronic Report from the Economic Research Service

[www.ers.usda.gov](http://www.ers.usda.gov)

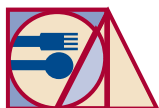
# Food Stamp Program Costs and Error Rates, 1989-2001

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## Abstract

Evidence is strong that, beginning in 1995, an increase in reported certification-related costs per Food Stamp Program (FSP) household contributed to reduced error rates. This report presents the results of a study of trends in FSP administrative costs and errors from 1989 to 2001. It describes the trends and composition of FSP administrative costs. It also presents a multivariate regression analysis of the relationship of reported certification costs to FSP error rates (including overpayments, underpayments, and incorrect eligibility decisions). The report presents alternative models that relate a composite case error rate to certification effort per FSP household, caseload characteristics, the implementation of welfare reform, and short certification periods. The results imply that, in the period after the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, States on average had to spend more effort on certification-related activities than in previous years to achieve a given level of accuracy. The models predict that, if a State's FSP certification budget is fixed and the number of FSP households increases, the effort per FSP household will fall and error rates will rise, all other things equal.



Food Assistance  
& Nutrition  
Research Program

**This report was prepared by Abt Associations Inc., and the University of Georgia under Cooperative Assistance Agreement No. 43-3AEM-2-80099 with the Economic Research Service. The views expressed are those of the authors and not necessarily those of ERS or USDA.**

## **Acknowledgments**

The authors wish to thank Ryan Kling, Don Laliberty, and Richard LaRock of Abt Associates Inc. for programming support, and the production staff of Eileen Fahey and Katheleen Linton. Nancy Burstein provided thoughtful advice throughout the study as the internal Project Quality Advisor. Kenneth Hanson delivered essential support and advice as the Department Officer's Representative. We also benefited from the comments and advice of Margaret Andrews, Mark Prell, and David Smallwood of ERS, and from the comments of Steven Carlson, Sharron Cristofar, Art Foley and others at FNS. We greatly appreciated the assistance of John Bedwell, Bob Dalrymple, Sharron Cristofar, and Nadine Maharaj of FNS in providing and clarifying the administrative cost data.

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# Executive Summary

The Food Stamp Program (FSP) provides assistance to low-income Americans for the purchase of food at authorized stores, farmers' markets, and other locations. The Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA) administers the program in partnership with the 50 States and the District of Columbia. FNS establishes FSP policy, oversees State FSP administration, and directly manages the participation of retailers and financial institutions. State agencies establish procedures, operate data processing systems, and contract for services provided by other government agencies or private organizations. Local food stamp offices (usually operated by State, county, or municipal agencies) process applications and provide other program-related services to food stamp applicants and recipients.

The administration of the FSP is a major expense to FNS and the States. In Federal Fiscal Year (FFY) 2001, the cost of State and local FSP administration was \$4.44 billion (according to estimates computed for this study). The Federal share of this cost was \$2.23 billion, or about 50 percent. FNS spent more on FSP administration than on the School Breakfast Program or the Child and Adult Care Feeding Program, including meal costs. During FFY2001, about 7.4 million households participated in the FSP in the average month, so the annual administrative cost was \$597 per household. The total cost of FSP benefits was \$15.55 billion, so the total cost of the FSP was \$19.99 billion, of which administrative costs represented 28 percent. (In this report, the term "cost" refers to expenditures of Federal, State and local funds for the FSP. The cost figures do not include FNS expenditures for federal-level FSP administration.)

Preventing and detecting benefit issuance errors is a major concern of FNS and the States. During the period from 1993 to 2001, the proportion of FSP benefits representing overpayments fell from 8.27 percent to 6.49 percent, and the annual cost of overpayments fell from \$1.82 billion to \$1.01 billion. Although some studies have examined the policies and other factors that contributed to this trend, none has considered the role of administrative spending. This report addresses this gap in the research.

Over the history of the FSP, there has been a series of cycles of growth and reduction in the numbers of participating individuals and households. The number of FSP participants increased dramatically from 1989 to 1994, and then declined just as dramatically from 1994 to 2000, before beginning another trend of increase in 2001.

## Study Objectives

This report presents the results of a study of trends in Food Stamp Program administrative costs and errors from 1989 to 2001. The period was chosen because of the trends in FSP participation, the implementation of welfare reform, and the availability of data.

The study addressed the following research questions:

- What was the total cost of FSP administration during this period, and how did it change with trends in FSP participation, error rates, and other contextual factors?

- What was the contribution of certification and other major functions to the total FSP administrative costs and the trends in costs over the period?
- What were the trends during this period in FSP error rates and the variables that might influence them, including caseload characteristics and patterns of administrative actions?
- What was the relationship of FSP certification costs to error rates?

## **Data Sources and Methods**

These questions were addressed through three major study components:

- Descriptive analysis of FSP administrative costs, using national and State-level data for 1989-2001
- Descriptive analysis of the patterns and trends of FSP error rates, case characteristics, and case actions over this period
- Modeling of the relationship of reported certification costs to FSP error rates while controlling for caseload characteristics, policies, and economic factors, using State-level time-series data.

The descriptive analysis of FSP administrative costs had two purposes: to provide descriptive information that has not been widely available, and as a starting point for the analysis of certification-related costs and errors. The administrative costs for the study period (1989-2001) were provided by FNS from the agency's National Data Bank. FNS compiled these data from State cost reports, which include both State and local administrative costs.

The data on FSP error rates, case characteristics, and case actions were drawn from the FNS Quality Control (QC) public-use microdata files for 1989 through 2001. Each file provides a random, nationally representative sample of approximately 50,000 active FSP cases selected for QC reviews by State FSP agencies. The QC files include detailed data on the demographics and economic circumstances of FSP participants, benefit levels, and administrative actions. The QC data also include indicators of errors in determining eligibility and benefits. For each year, the analysis variables were computed at the State and national levels through weighted tabulations of the microdata, using the sampling weights in the microdata. These data were supplemented by published summary reports of negative action QC samples and estimated error rates, unemployment data from the Bureau of Labor Statistics, and public welfare pay rates from the Census of Local Governments.

## **National Summary of FSP Administrative Costs**

The total annual cost of FSP administration for the U.S. rose from \$2.96 billion in 1989 to \$4.44 billion in 2001, an increase of 50 percent. (All cost estimates in this report are in 2001 dollars, so inflation was not a factor in this increase.) The average annual U.S. grand total was \$3.68 billion, of which \$2.17 billion was for certification. Among costs reported from 1989 to 2001, the largest percentage increases were in the areas of fraud control (123 percent) and automated data processing (ADP) operations (73 percent), while the smallest increases were in issuance (31 percent) and the Food Stamp Employment and Training Program (E&T) (40 percent). The total cost reported as "unspecified other" fell by 24 percent. The U.S. total certification cost increased 54 percent.

Figure ES-1 shows the percentage distribution of the national total FSP administrative cost for the period (summed over all 13 years) among the analysis categories. Certification was by far the largest category, representing three-fifths (59 percent) of the total. The next largest categories were “unspecified other” (10 percent), issuance (7 percent), E&T (7 percent), and ADP operations (6 percent). The smallest categories used in this study were fraud control, FSNE, ADP development, and miscellaneous other costs (a combination of the smallest reporting categories).

**Figure ES-1**

**Percent of Total FSP Administrative Cost by Component for U.S. (in 2001 Dollars), 1989-2001**

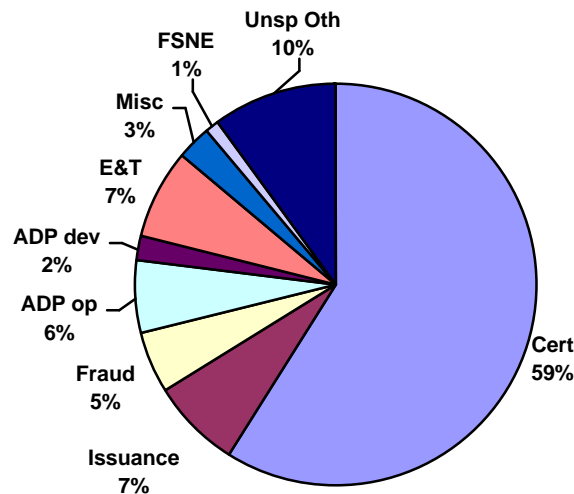


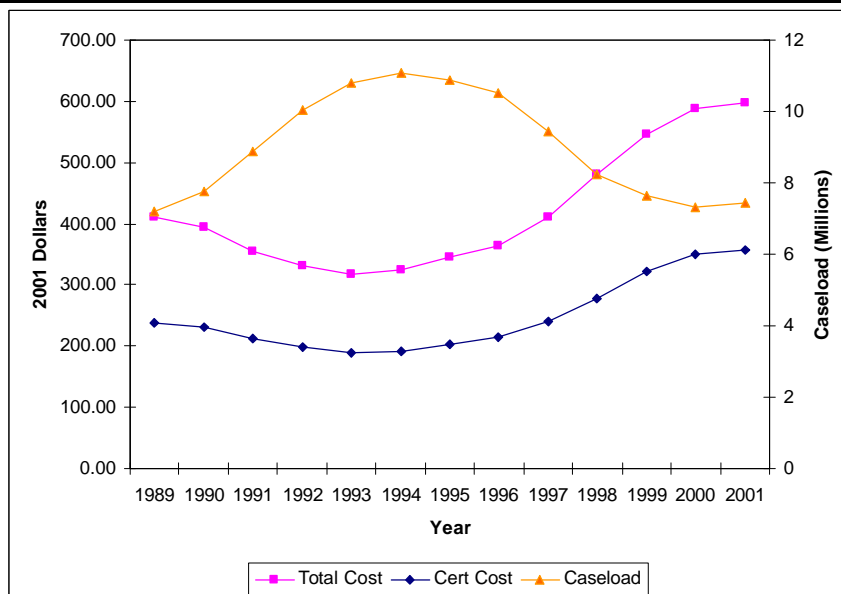
Figure ES-2 compares the national trends in total administrative cost per FSP household, certification cost per FSP household, and participating FSP households. The number of FSP households rose from 7.2 million in 1989 to 11.0 million in 1994, then declined to 7.3 million in 2000 before rising slightly to 7.4 million in 2001.<sup>1</sup> The total administrative cost per FSP household declined from \$411 per FSP household in 1989 to \$316 per FSP household in 1993, then increased from 1994 to a peak of \$596 per FSP household in 2001. A nearly identical trend occurred in the national certification cost per FSP household.

As shown in table ES-1, half of the States had an average annual total cost between \$338 and \$468 per FSP household (the range between the 25th and 75th percentiles). (This table is based on the weighted average for each State, i.e., the total cost for the period in 2001 dollars divided by the sum of the average number of participating households over the study period.) There was a wide range among the States in the average annual total cost per FSP household, from a minimum of \$149 to a maximum of \$1165. The range of average annual certification cost per FSP household was from \$86 to \$643, while half of the States had average annual certification costs between \$165 and \$279 per FSP household. The other cost categories had similarly skewed distributions.

<sup>1</sup> Beyond the study period, the number of participating FSP households increased to 8.2 million in FY2002 and 9.2 million in FY2003.

**Figure ES-2**

**Average Annual Total FSP Administrative and Certification Costs per Household (in 2001 Dollars) and FSP Caseload of Participating Households for U.S., 1989-2001**



**Table ES-1**

**Summary Statistics of State-level Average Annual Cost per FSP Household in 2001 Dollars for Total and Components, 1989-2001**

State	Total Cost	Cert	Issuance	Fraud	ADP op	ADP dev	E&T	Misc.	FSNE	Unsp. Oth.
U.S. Average (wtd.)	408	240	31	21	24	6	28	11	6	41
Unweighted statistics:										
Minimum	149	86	11	3	6	0	3	3	0	0
25th Percentile	338	165	24	9	15	1	11	9	3	1
Median	398	240	31	15	25	6	18	14	6	19
75th Percentile	468	279	38	20	44	9	37	19	11	61
Maximum	1165	643	201	100	184	43	160	39	41	155

## Trends in FSP Caseload and Administrative Actions

During the period from 1989 to 2001, there were a number of notable trends in the characteristics of FSP households that were expected to affect error rates.

- The percentage of FSP households receiving AFDC or TANF fell slightly from 41.9 percent in 1989 to 38.3 percent in 1995, and then more rapidly to 23.0 percent in 2001.



Thus, the trend was already under way when TANF was adopted in 1996, but it accelerated thereafter.

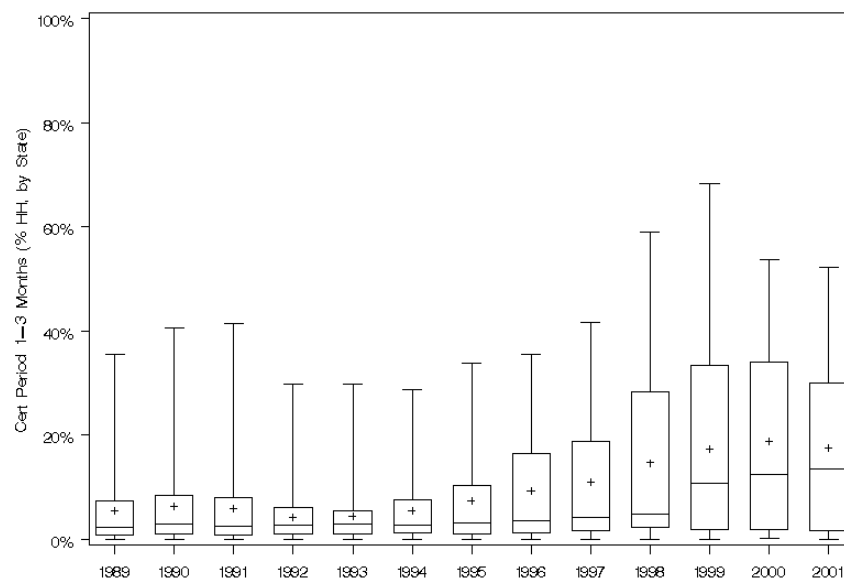
- The percentage of FSP households with earnings rose from 19.0 percent in 1990 to 27.2 percent in 2000, with the sharpest increase between 1995 and 1998. This trend coincided with both the economic boom of 1992-2000 and the implementation of welfare reform.
- There was a clear upward trend in the national percentage of FSP households with Social Security income after 1992, rising from 27.5 percent to 45.0 percent in 2001. Thus, Social Security took the place of AFDC/TANF as the most common source of income for FSP households.

Another key trend in the FSP was that the national proportion of all FSP households with very short (1- to 3-month) recertification periods increased steadily from about 5 percent to about 19 percent in the late 1990s. The percentage of households with 4- to 6-month recertification periods declined, as did the percentage with 7- to 11-month recertification periods, while the percentage with longer periods did not noticeably change.

The percentage of FSP households with 1- to 3-month recertification periods also varied considerably across States during these years, with more variation as the national average increased. (See Figure ES-3.) In 1999, for example, the range between the 25<sup>th</sup> percentile and the 75<sup>th</sup> percentile (represented by the vertical box) extended from under 5 percent to over 30 percent. This large cross-State variation suggested that this variable was particularly important to consider in modeling certification effort and errors.

**Figure ES-3**

**Variation in State-Level Percentage of FSP Households with Certification Period of 1-3 Months**



Note: For each year, the vertical box represents the range from the 25<sup>th</sup> percentile to the 75<sup>th</sup> percentile. The line dividing the box is the 50<sup>th</sup> percentile (median). The “+” is the unweighted mean. The lines extending from the box indicate the range (minimum and maximum).

## Trends in Error Rates

FSP rules and performance measures identify four types of errors in the determination of household eligibility and the calculation of benefits:

- Payments to ineligible households
- Overpayments to eligible households
- Underpayments to eligible households
- Negative action errors, i.e. the improper denial or termination of benefits to applicants or participating households.

Errors may occur in determining any of the aspects of certification: household composition, income, deductions from income, countable assets, work and citizenship requirements, other eligibility requirements, and benefit calculation.

For this study, case error rates—i.e., the ratios of cases with specific types of errors to all active cases—were computed for overpayments, underpayments, and ineligible cases, using FNS data from QC reviews. The ratio of negative action errors to FSP cases was computed. The positive case error rate combined the rates of overpayments and ineligible cases; these errors are “positive” from the perspective of the participants. The negative case error rate combined the rates of underpayments and negative action errors. All case error rates used the sum of active cases and negative action cases as the denominator.

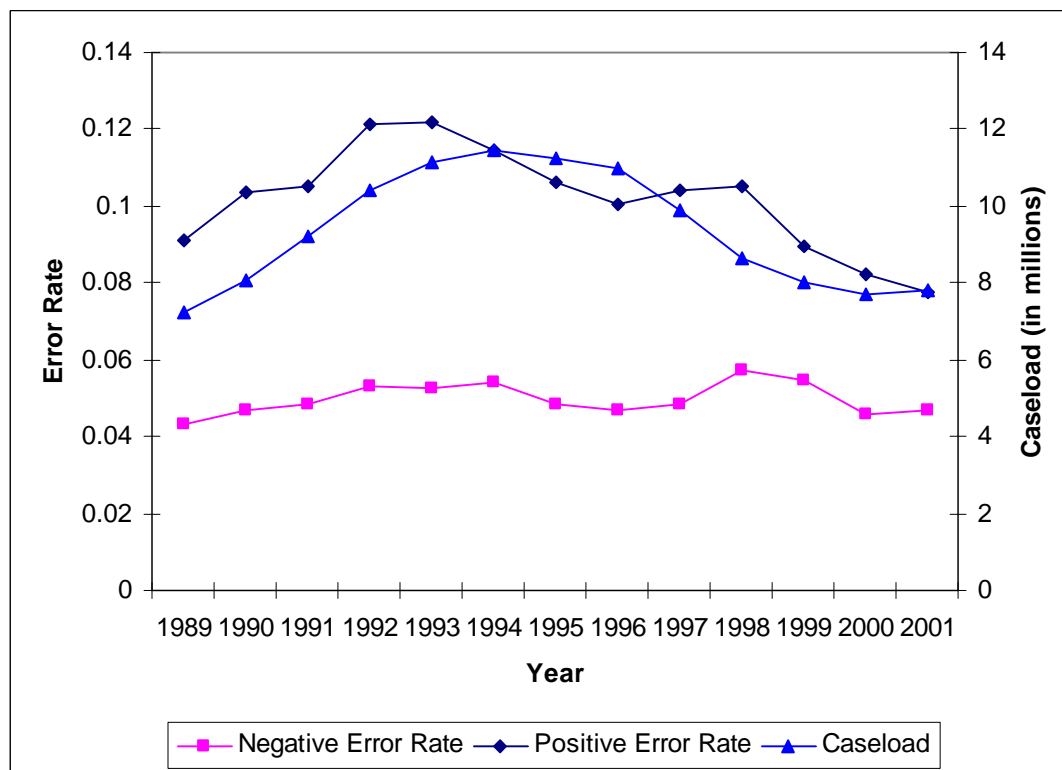
Figure ES-4 compares the national trends in positive and negative error rates with the trends in the number of FSP households from 1989 to 2001. Error rates tended to be higher when the caseload was high and lower when the caseload was low. The national average positive error rate increased from 1989 to 1993 and generally declined thereafter. It is notable, however, that this rate increased from 1996 to 1998, during the first two years after the enactment of PRWORA, before resuming its downward trend. The national average negative error rate decreased from 1989 to 1996, increased from 1996 to 1998, dropped from 1998 to 2001, and rose slightly in 2001.

States are liable for sanctions (i.e., financial penalties) if they have excessive payment error rates. There were important changes in FNS policy regarding QC sanctions during the study period.

- Starting with FY1998, sanctions were determined after the error rates were adjusted for States with above-average percentages of FSP households with earnings or immigrants, and for States with above-average increases in one or both of these percentages.
- For FY1998-1999, errors between \$5 and \$25 were identified in QC reviews (as they had been previously) but ignored in computing the adjusted error rates for the purpose of establishing sanctions.
- Starting in FY2000, errors under \$25 were ignored in QC reviews.
- States established agreements with FNS to reinvest the amount of their QC sanctions in program improvement rather than pay the funds to FNS.

**Figure ES-4**

**FSP Households and Error Rates, 1989-2001**



Notes: Caseload includes active cases and cases subject to negative action. Negative error rate is percent of caseload with underpayments or negative action errors. Positive error rate is percent of caseload with overpayments or ineligible for benefits. Error rates were computed as a percentage of active FSP cases plus negative actions. A constant error threshold of \$25 per month was used in estimating error rates.

- FNS began placing some liabilities “at risk” in these agreements, instead of waiving them, so that States would have to pay the at-risk portion if they did not meet specified targets for error reduction.

Researchers have paid much attention to the sources of the decline in FSP participation during the 1990’s, but there has been relatively little attention to the trends in error rates. A recent study (Kabbani and Wilde, 2003) found that the proportion of FSP households with short certification periods was more strongly associated with the overpayment rate (as a percent of benefits issued) than was any other variable. The study also found characteristics of the FSP caseload and of the States that appeared to influence error rates during the period.

## **Approach to Modeling the Relationship of Certification Effort to Error**

We hypothesized that the level of effort devoted to certification and related activities (normalized for the number of FSP households) is an important variable that has been overlooked and can provide a cumulative measure of a State’s relative commitment to accurate certification and error reduction.

Therefore, we constructed multivariate regression models to estimate the impact of reported FSP certification effort on error rates, while controlling for other variables that affect the likelihood of error (and, therefore, the amount of effort needed to achieve a given level of accuracy). The collection of data on costs, pay rates, caseload characteristics, and error rates provided the opportunity to undertake this analysis.

We modeled the combined level of positive and negative error (the “error index”) as a function of three types of factors: reported effort (the quantity of administrative resources expended on certification-related activities, relative to the number of FSP households), State characteristics, and policies. We computed the measure of reported effort by State and year by dividing the average public welfare worker wage into the certification-related cost per FSP household (including certification, fraud control, unspecified other, and miscellaneous costs expected to be related to certification or error prevention).

The computation of the effort measure excluded automated data processing (ADP) costs, because it was clearly inappropriate to treat the ratio of ADP costs to wages as an estimate of data processing units. Reasoning that factor prices for data processing are largely set in a national (or even international) market, we preferred to treat the ADP cost per FSP household as a separate independent variable. The models ultimately did not include this variable, however, due to difficulties encountered in the analysis.

The dependent variable used in this analysis was a index of error computed as a weighted sum of annual positive error rates and negative error rates (using the adjusted case error rates described above). Through a grid search procedure, we estimated that the same amount of resources required to reduce the positive error rate by 1 percentage point could reduce the negative error rate by 0.69 percentage points, after controlling for other State characteristics. Thus, the error index was the sum of the positive error rate and 1.45 times the negative error rate. The variables in the models, including factors other than effort that were expected to affect the error index, are defined in table ES-2, which gives their means and standard deviations.

We began with a simple model that included the explanatory variables, a variable for each State denoting a fixed effect, and a State-specific time trend. Next, we estimated a fixed effects model that addressed potential problems in the simple model (first-order autocorrelation and heteroscedasticity). Reasoning that the error index in one period could affect the effort and other variables in the next, we also estimated a simple partial adjustment model and a dynamic model using an Arellano-Bond estimator.

## **Results of Multivariate Analysis**

The estimation results show that, as expected, the food stamp error index was lower when States reported expending more certification effort, after controlling for other State characteristics. This result had a high degree of confidence in all models. On the other hand, the results also imply a smaller impact of reported worker effort on error in the post-PRWORA environment.

**Table ES-2****Means and Standard Deviations of Analysis Variables**

<b>Variable</b>	<b>Definition</b>	<b>Mean (S.D.)</b>
ERROR	Weighted total error rate	0.157 (0.048)
EFFORT	Certification-related cost per FSP household, normalized by the state wage for a full-time public welfare worker	0.010 (0.004)
PRWORA	Indicator for post-PRWORA period (1997-2001)	0.389 (0.488)
PEFFORT	Interaction between EFFORT and PRWORA	0.005 (0.006)
TANF	Percent of food stamp households receiving AFDC or TANF	0.325 (0.126)
PTANF	Interaction between TANF and PRWORA	0.097 (0.141)
EARNINC	Percent of food stamp households with earned income in case record	0.247 (0.080)
SSINC	Percent of food stamp households with OASDI or SSI benefits	0.370 (0.104)
SINGLEPAR	Percent of food stamp households with children headed by a single adult	0.722 (0.087)
PCTEBT	Percent of food stamp households that receive electronic benefits	0.236 (0.395)
FYUN0	Unemployment rate	0.053 (0.015)
CM13	Percent of food stamp households with 1-3 month certification periods	0.100 (0.129)
<i>n</i>		654 <sup>a</sup>

<sup>a</sup> Negative action error data were unavailable for 9 observations.

To quantify the relationship of effort to error before and after PRWORA, we used the model parameters to estimate the elasticity of the error index with respect to reported effort. For the pre-PRWORA period, holding the negative error rate constant, a 10 percent increase in effort reduced the positive error rate by 2.76 to 3.77 percent. Alternatively, with the positive error rate held constant, a 10 percent increase in effort reduced the negative error rate by 1.90 to 2.60 percent (reflecting the weighting in the error index). For the post-PRWORA period, a 10 percent increase in effort reduced the positive error rate by 1.32 to 3.42 percent (holding constant the negative error rate). Depending on the model, the estimated effect of effort on error in the post-PRWORA period was 9.3 percent to 56.7 percent smaller than in the pre-PRWORA period.

While we do not have clear evidence of the reasons for the reduced effect of reported effort on error after PRWORA, we suggest two alternative explanations. One explanation is that more effort was in fact expended to achieve a given level of accuracy, perhaps due to the challenges of implementing PRWORA, lags in the adjustment of staffing to declining FSP caseloads, or both. The alternative

explanation is that more of the actual effort was charged to the FSP in the post-PRWORA period, so that the reported level of effort for a given level of error was greater. Changes in cost allocation rules resulted in more shared costs for FSP/TANF cases being allocated to the FSP, and so States had to spend more FSP dollars per household (in real terms) to produce the same output. The authors view this explanation as more convincing.

In addition to the effect on the elasticity of error with respect to effort, the models capture two other effects on error associated with PRWORA.

- In the post-PRWORA period, States with higher percentages of FSP households receiving TANF had higher error rates (all else equal).
- The net effect of PRWORA on the error index (computed by combining the effects of all variables related to PRWORA) was smaller than the changes in the effects of effort and percent receiving TANF alone would predict.

The effects associated with PRWORA may have resulted from three types of changes in the FSP and in the operations of public welfare agencies during this period:

- The transition from AFDC to TANF, which entailed changes in both the rules for cash assistance and the environment in which public welfare workers operated
- FNS and State initiatives to reduce FSP errors, through changes in rules and program operations
- The changes in cost allocation rules and practices that resulted in varying increases in the FSP's share of common certification costs for FSP cash assistance households.

The available data were insufficient to determine the relative influence of these three types of changes, each of which had multiple dimensions. The authors believe that the downward influence on the error index was at least in part attributable to FSP error-reduction policies other than the shortening of certification periods (which is discussed below).

We found the following significant results for the effects of other important characteristics of FSP households on error rates.

- The percent of FSP households reporting earned income (EARNINC) had a positive and highly significant effect on the error index. Thus, the decline in the error index in the late 1990's was achieved despite the fact that increasing work force participation among FSP recipients exerted upward pressure on the error index.
- The percent of FSP households with Social Security or SSI income (SSINC) had a negative effect on the error index. This proportion grew during the late 1990's, so this was another factor underlying the decline in the error index.

Among the other independent variables in the model, only the percentage of FSP households with one to three-month certification periods (CM13) had a significant effect on the error index. Neither the percentage of FSP households using EBT nor the State unemployment rate had a significant effect on the error index, even after adjusting for the effect of the lagged error index.

## Conclusions

This analysis provides strong evidence that the increase in reported certification-related costs per FSP household, which began in 1995, contributed to the reduction in the error index, i.e., in the weighted sum of positive and negative case error rates. This contribution was not recognized by the previous literature on factors affecting payment error rates. Our results confirm the conclusion of previous research and the widespread view in the FSP policy community that increase in use of short certification periods also contributed to the downward trend in error rates.

Other changes in the FSP associated substantively or temporally with PRWORA had different effects on States. For the average State, these changes had the effect of increasing the error index, as a result of the reduction in the effect of reported effort on the error index and the introduction of an increase in error rates with the proportion of FSP households receiving TANF. The effect was larger where the percentage receiving TANF was above average and smaller (or even negative) where this percentage was below average. Given the many changes in the FSP and TANF policies and operations of State FSP agencies after the enactment of PRWORA and the lack of State and year-specific data on these changes, we cannot determine whether these effects resulted from PRWORA implementation, FSP error-reduction initiatives, cost allocation changes, or a combination of these factors.

These results imply that, in the post-PRWORA period, States had to spend more effort on certification-related activities than in previous years to achieve a given level of accuracy (relative to the expected level absent a change in effort). If this is true, it provides a retrospective justification for the dramatic increase in the reported certification-related cost per FSP household between 1994 and 2001.

The results also raise the question of whether States approached a point of diminishing returns in the expenditure of effort to reduce error rates. While the study did not provide clear evidence of this (i.e., a non-linear model did not explain the data better than the linear model), and error rates actually continued to fall after 2001, the results suggest a need for attention to this possibility.

The established relationship between effort and error rates suggests an explanation for why error rates tend to rise when the number of FSP households rises. If a State's total budget is fixed and the number of FSP households increases, the effort per FSP household falls. The models estimated in this study predict that this change will lead to a rise in the error index, all other things equal.

## Limitations of the Study

Perhaps the most important limitation of the study is that reported FSP administrative costs, and thus the measure of effort, are subject to variation in definition and measurement, both over time and among States. Thus, there is some uncertainty about how much of the increase in reported certification-related costs per FSP household during the study period represented an actual increase in resources, both in general and specifically with respect to efforts to prevent and detect errors.

It is possible that a portion of the effect attributed to certification effort is in fact due to increased automation. If so, then the estimated effect of effort on error would overstate the actual reduction in

error that a State would achieve by increasing certification effort alone without also increasing the level of automation.

A number of uncertainties about the factors affecting error rates—particularly the roles of PRWORA and FSP quality control policies—could be addressed through extension of this research to additional years after 2001. Another, complementary approach to extending this research would be a series of case studies examining the spending, policies, operational challenges, and results of specific States. This approach would provide insights into the relationship of PRWORA implementation, FSP error reduction, process automation, and cost allocation practices.